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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/859,462

05/18/2001

Toshihiko Fujisaki

Q64555

3965

7590

06/30/2005

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
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EXAMINER

DAVIS, CYNTHIA L

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/859,462

Applicant(s)

FUJISAKI, TOSHIHIKO

Examiner

Cynthia L Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Response to Arguments

2. Applicant's arguments filed 4/26/2005 have been fully considered but they are not persuasive.

Regarding claim 1, Lin discloses different classes of service being routed through different channels, which reads on the "selecting a route having no overlapping used by another packet with higher precedence" as is disclosed in claim 1. The service classes of Lin relate to precedence information. Each packet in Lin would belong to a particular class of service.

Applicant's arguments with respect to claim 2 have been considered but are moot in view of the new ground(s) of rejection.

Regarding claim 3, Lin discloses the IP "ping" utility, which uses return dummy packets and is a well known part of a common protocol suite. Also, the service classes of Lin relate to the claimed precedence function.

Regarding claim 4, claims 1 and 3 still stand as rejected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to

a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Nederlof.

Regarding claim 1, means for collecting empty band related information related to an empty band of each route existing between an own router and a communications IP packet is not specifically disclosed in Lin. However, Lin does disclose in column 2, lines 21-28, means for collecting information regarding the speed of various routes, which could be used to determine empty band related information. Nederlof also discloses in column 8, lines 10-11, means for collecting information related to available bandwidth. It would have been obvious to one skilled in the art at the time of the invention to collect empty band information. The motivation would be to know which routes have available space for routing higher priority packets. Storing route determining information including the collected empty band related information, route information, and precedence of said communications IP packet in a route storing portion, in the event of receiving the communications IP packet from a terminal directly connected to the own router is disclosed in Lin, column 2, lines 35-44 (if different classes of service are being offered, the precedence of the packets must be known and stored). A route specifying portion for finding all of the route determining information having precedence equal to said communications IP packet and a route matching one of the routes available for said communications IP packets and selecting a route having no overlapping with a route used by an other packet with precedence higher than said communications IP packets and the largest empty band among the found route

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determining information as the route of said communications IP packet, in the event of receiving the communications IP packet from a terminal connected directly to the own router is disclosed in Lin, column 2, lines 40-52.

Regarding claim 2, the empty band related information being a return time of dummy packets is disclosed in Lin, column 2, lines 21-28 (the test message is a dummy packet) in view of the prior art disclosed in Lin in column 1, lines 35-39 (describing the TCP/IP "ping" utility). It would have been obvious to one skilled in the art at the time of the invention to use the "ping" utility in the system of Lin. The motivation would be to use an old, well known functionality of a common protocol.

Regarding claim 5, means for collecting empty band related information related to an empty band of each route existing between an own router and a communications IP packet is not specifically disclosed in Lin. However, Lin does disclose in column 2, lines 21-28, means for collecting information regarding the speed of various routes, which could be used to determine empty band related information. Nederlof also discloses in column 8, lines 10-11, means for collecting information related to available bandwidth. It would have been obvious to one skilled in the art at the time of the invention to collect empty band information. The motivation would be to know which routes have available space for routing higher priority packets. Storing route determining information including the collected empty band related information, route information, and precedence of said communications IP packet in route storing position, in the event of receiving the communications IP packet from a terminal directly connected to the own router is disclosed in Lin, column 2, lines 35-44 (if different

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classes of service are being offered, the precedence of the packets must be known and stored). A route specifying portion for finding all of the route determining information having precedence equal to said communications IP packet and a route matching one of the routes available for said communications IP packets and selecting a route having no overlapping with a route used by an other packet with precedence higher than said communications IP packets and the largest empty band among the found route determining information as the route of said communications IP packet, in the event of receiving the communications IP packet from a terminal connected directly to own router is disclosed in Lin, column 2, lines 40-52. All of these means being actuated by a machine-readable recording medium for recording a program for actuating a computer for a router is disclosed in Lin, column 2, lines 10-11 and lines 35-39 (the other computers on the network have access to the congestion information and can use it for routing).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Nederlof. The means for collecting empty band related information comprising a dummy packet generating portion for transmitting a dummy packet is disclosed in Lin, column 2, lines 21-23. Requiring a return dummy packet in which each route available for said communications IP packet includes originating time, precedence and a route of said communications IP packet and a last router including said originating time, precedence and the route, in the event of receiving a communications IP packet from a terminal directly connected to the own router is not specifically disclosed in the preferred embodiment of Lin. However, Lin discloses in column 1, lines 26-28 and 35-39, using

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return dummy packets as a common method of estimating round-trip time in IP networks. It would have been obvious to one skilled in the art to use round-trip time of dummy packets to collect empty band information. The motivation would be to use a commonly available IP utility. A return time measuring portion for calculating return time of the dummy packet based on the time when said return dummy packet is received and an originating time in said return dummy packet, in the event of receiving the return dummy packet, and storing the route determining information including said calculated return time, precedence of said return dummy packet and the route of said return dummy packet in said route storing portion is disclosed in Lin, column 2, lines 21-28 and 35-39.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Nederlof in further view of Bellovin. The dummy packet generating portion transmitting the dummy packets at each time when a predetermined number of communication IP packets are received from a terminal directly connected to the own router is not specifically disclosed in Lin or Nederlof. However, Bellovin discloses in column 2, lines 8-10, periodically analyzing the congestion along routes in an IP network. It would have been obvious to one skilled in the art at the time of the invention to transmit the dummy packet and collect congestion information after every N packets. The motivation would be to be able to identify and adjust to traffic changes in the network as they happen over time.

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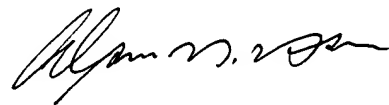
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLD
6/27/2005

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6/27/05



ALPUS H. HSU
PRIMARY EXAMINER